29 November 1967

Materiel Test Procedure 10-2-209
General Equipment Test Activity

U. S. ARMY TEST AND EVALUATION COMMAND
COMMODITY ENGINEERING TEST PROCEDURE

FOOD ACCEPTANCE SURVEYS

1. OBJECTIVE

This document presents methods used to conduct food surveys relative to military food to determine the general acceptance by military personnel of experimental and standard food and rations.

2. BACKGROUND

Army food acceptance surveys involve the measurement of soldier attitudes and opinions of experimental and standard foods and rations usually for the purpose of identifying specific changes, refinements, additions, and deletions in menus and foods which will enhance their acceptance to the soldier. This type of study is thus basically oriented toward the measure of food likes and dislikes, but may also take into account the many personal, environmental or other related factors which underlie the opinions expressed by the soldier toward the foods.

In essence, the survey has the practical goal of immediate improved acceptance through modification or change in the food per se. An example would be a large scale study of Army mess halls throughout CONUS to obtain soldier opinions regarding the acceptability of the standard A Ration. Here the purpose would be to establish specific likes and dislikes for menus and foods as normally served and to identify any major shifts in food preferences over a given period of time with a veiw to improvement of the Army's Master Menu.

3. REQUIRED EQUIPMENT

a. Survey Site (classroom or similar facility which is well ventilated and lighted and has adequate seating and writing surfaces).
b. Visual Aids
c. Visual-audio Equipment
d. Automatic Data Processing Equipment
e. Supplies:

1) Survey questionnaires
2) Food rating forms
3) Pencils
4) Copies of orientation instructions

4. REFERENCES

A. Principles of Sensory Evaluation of Food Academic Press, 1965.
B. Sample Survey Methods and Theory Vol. 1, Vol. 2, John Wiley and Sons, Inc., 1953.
C. U. S. Naval Supply Research and Development Facility A Comparison

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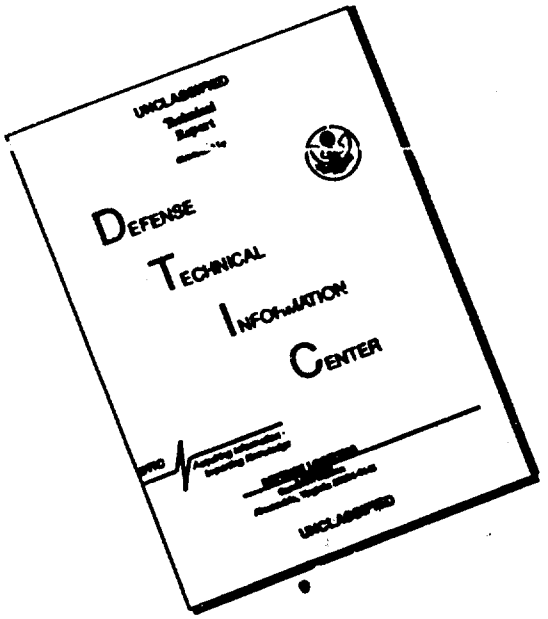

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Approach to Food Acceptance, Bayonne, N. J., August 1963.
D. MTP 10-2-501, Operator Training and Familiarization.
E. USATECOM Regulation No. 385-6, Safety Regulations for USATECOM.

5. SCOPE

5.1 SUMMARY

This document describes the following tests:

a. Preliminary Operations - A study to determine the desired scope of the survey and number of personnel required to conduct the survey.
b. Survey Sample - A study to determine which personnel shall be surveyed in order to obtain a representative sample.
c. Survey Conduct - A study to obtain information on the food preferences of survey participants and on factors which might influence these preferences.

5.2 LIMITATIONS

None

6. PROCEDURES

6.1 PREPARATION FOR SURVEY

6.1.1 Preliminary Operations

a. Determine the geographic areas in which the survey is to be conducted.
b. Select the installations in each area at which the surveys will be conducted.

NOTE: If the purpose of a survey is to obtain an indication of food likes and dislikes throughout the entire Army population, then the method of obtaining the sample must assure that installations selected will be representative on the basis of the selection criteria. It may be decided prior to the survey, for example, that the number of combat and combat support units which participate, will be in the proportions that they exist in the Army. The selection of installations will usually be accomplished by first separating Army posts in the Zone of Interior into distinct groups according to geographic area. Installations may then be selected across all geographic areas so as to have a reasonably representative sample of types of activity in the Army.

c. Obtain the necessary clearance and permission through channels to send survey teams into the selected areas.

NOTE: Small scale surveys to be conducted locally may usually be

coordinated directly through the Commander of the installation involved. When the survey involves posts in one or more Army areas, coordination is accomplished in much the same manner as for a test, i.e., through USATECOM, CONARC, the Army Area(s) concerned, and then to the installation.

d. Organize survey teams consisting of an officer and one or more enlisted men.

e. Instruct survey personnel in the proper procedures for executing the survey using the criteria of MTP 10-2-501.

6.1.2 Survey Sample

a. Upon arrival at the selected installation(s), the survey team leader shall obtain rosters of all units located on the installation showing the assigned strength of each unit.

NOTE: A unit is defined as the smallest Army unit which submits a morning report, and may be at the company, battery, or detachment level.

b. Based on the predetermined sampling ratio, choose the units to be surveyed at random with the probability of selection proportional to unit size.

NOTE: The sampling ratio may differ for each installation and is established on the basis of the total number of individuals required to assure that the survey is statistically valid and reliable.

c. After selection of participating units, the survey team leader will obtain rosters of all men present for duty in each of the sample units.

NOTE: Present for duty is usually defined as being physically available at the installation. Men on leave, pass, sick in the hospital, AWOL, confined to quarters, or off the post on duty, are not included.

d. Using a predetermined sampling ratio, make a random selection of survey participants within each unit.

NOTE: The optimum sampling procedure would provide an equal opportunity for each individual within a unit to participate in the survey, and is essentially the basis upon which inferences may be made from the survey sample to the population represented by that sample. Sampling plans used must be tailored to the specific requirements and objectives of each survey, and should be arrived at in consultation with a qualified statistician, and reference statistical texts.

6.1.3 Survey Site

a. The survey team leader shall assure that a suitable room for administering the questionnaires is available (preferably a classroom-type structure).

b. He shall ensure that there are a sufficient number of desks with suitable writing surfaces.

6.2 SURVEY CONDUCT

6.2.1 Orientation

a. All participants shall be seated so that they have an unrestricted view of any visual aids used.

NOTE: The optimum size group for each session is 50 to 60 individuals. Groups which greatly exceed this number may be difficult to control and may produce conditions in which the survey orientation and procedure will not be fully understood by participants.

b. The team leader shall brief each group of participants separately using prepared notes which will provide for complete coverage of the following:

1) Purpose of survey
2) Importance of the survey
3) General method of selecting participants
4) Specific procedures for administration of the survey forms
5) General statement of how the information obtained will be used

NOTE: The orientation should be delivered in a courteous manner, with emphasis on the importance of each participant's contribution through his proper completion of the questionnaires.

6.2.2 Questionnaire Administration

NOTE: 1. Survey team personnel shall perform the following:
a) Review specific instructions for completing each section of the questionnaire where the purpose of each section and the method of recording responses differ greatly.
b) Provide illustrative responses
c) Be present during each session to ask for and answer questions raised by the survey participants.
2. Participants shall be allowed as much time as required to complete the questionnaire.
3. Survey team personnel shall collect and check, for completeness, each finished questionnaire prior to dismissal of the survey participants.

a. Survey team personnel shall administer each section of the questionnaire separately and record the following for each session:

1) Date
2) Time each section is started
3) Time each section is completed
4) Number of participants in the survey session
5) Environment of the survey room:

a) Size of room
b) Temperature
c) Relative humidity

6) All questions asked by participants relating to the questionnaire

b. Survey team personnel shall observe and record the following concerning the local environment:

1) General environmental conditions of the area
2) Effects of environment on respondents
3) Effects of environment on food
4) Effects of environment on the hypothesis of the respondents

NOTE: Specific survey data to be obtained will vary with the purpose of the survey, the following are typical data which might be obtained:

a. Participant's personnel data:

1) Name
2) Age
3) Place of birth
4) Education
5) Economic background

b. Participant's general attitude factors:

1) Morale index
2) Attitude toward the Army
3) Length of military service
4) Assigned duties, MOS

c. Participant's food attitude measures:

1) Ratings for foods as served
2) Specific statements of preference and acceptance
3) Opinions regarding food preparation and serving in mess halls
4) Food consumption outside of Army messes

6.3 TEST DATA

6.3.1 Survey Sample

Record the following:

a. Method used in selecting installations to be surveyed.
b. Selection of units at installation:

1) Size of each unit
2) Method used
3) Sampling ratio used

c. Selection of individuals from units:

1) Method used
2) Sampling ratio

6.3.2 Survey Conduct

a. Record the following:

1) Date questionnaire is administered
2) Time each section of questionnaire is started
3) Time each section of questionnaire is completed
4) Number of participants in test session
5) Test site environment:

a) Size of room
b) Temperature in °F
c) Relative humidity in percent

6) Questions asked relating to the item being evaluated
7) Concerning the local environment:

a) General environmental conditions of area
b) Effects of environment on respondents
c) Effects of environment on food
d) Effects of environment on the hypothesis of the respondents reactions

b. Retain all questionnaires.

6.4 DATA REDUCTION AND PRESENTATION

Completed survey forms will usually be machine tabulated and analyzed using standard statistical methods. Mean ratings for foods with standard deviations and confidence limits for each mean will be obtained as a minimum. Further detailed analysis may be made to investigate the relationships between attitudes and opinions as measured by responses to specific background and personal history questions, and food preferences stated in terms of average ratings for individual foods included in the survey.